# DISTINCTION BETWEEN *VITIS BLANCOI* AND *V. CINEREA* VAR. *TOMENTOSA* (VITACEAE)

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## ABSTRACT

*Vitis blancoi* Munson as treated by Munson included two, unrelated taxa with separate distributions. Plants from southern Mexico are treated as *V. blancoi* Munson emend. Comeaux, and are assigned to series *Occidentales* Munson. The northern group of plants from northern Mexico and extreme southern Texas belong to series *Cinerascentes* Planchon, and are here designated as *V. cinerea* (Engelm. in Gray) Engelm. ex Millardet var. *tomentosa* (Planchon) Comeaux. Revised descriptions and specimen citations are provided.

## RESUMEN

*Vitis blancoi* Munson tal como fue tratada por Munson incluye dos taxa no relacionados con distribuciones diferentes. Las plantas del sur de México son tratadas como *V. blancoi* Munson emend. Comeaux, y se asignan a la serie *Occidentales* Munson. El grupo norteño, de plantas del norte de México y extremo sur de Texas, pertenece a la serie *Cinerascentes* Planchon, y se designa aquí como *V. cinerea* (Engelm. in Gray) Engelm. ex Millardet var. *tomentosa* (Planchon) Comeaux. Se ofrecen descripciones y citas revisadas de especímenes.

Thomas Volney Munson Munson (1843–1913) was the recognized authority of his day on the indigenous species of North American *Vitis* and respect for his knowledge has continued into recent times (Renfro 1983). Munson studied the North American species of *Vitis* for nearly fifty years and through these efforts he produced a comprehensive treatment of the genus contained in his classic work, *Foundations of American Viticulture* (Munson 1909).

Despite Munson's immense knowledge of the genus his interpretation of *V. blancoi* (Munson 1909)included two unrelated taxa with separate distributions. The plants from northern Mexico and extreme southern Texas belong to series *Cinerascentes* Planchon and the more southerly distributed individuals belong to series *Occidentales* Munson.

The objectives of this study were: (1) to provide a chronological historical account of the taxa involved; (2) to emend Munson's description of *V. blancoi*; (3) to thoroughly describe and provide justification for accepting as distinct *V. cinerea* var. *tomentosa* (Planchon) Comeaux, a currently unrecognized taxon from northern Mexico and extreme southern Texas; (4) and to document the distributions of these taxa.

## NOMENCLATURAL REVIEW

Munson (1890a; 1890b) first reported obtaining specimens of *V. blancoi* in 1887 from

Luciana Blanco of Guadalajara, Mexico, for whom he named the species. Blanco discovered it growing along streams in the nearby Sierra Madre Mountains in the southern state of Jalisco and repeatedly sent Munson specimens of the plants.

Munson (1909) provided an elaborate description of *V. blancoi*; along with a photograph of a specimen labeled as from Guadalajara. Significantly, Munson stated that in 1895 he received additional specimens from C.M. Stuart collected near Montemorelos, in the state of Nuevo Leon in northern Mexico. *Vitis blancoi* was placed in series *Cinerascentes* Planchon by Munson, since he felt it was closely related to *V. caribaea* DC (*V. tiliifolia* Humb.& Bonpl. ex Roem. & Schult.), also assigned to that series.

Subsequent treatments of *V. blancoi* have varied regarding its status as a species and classification within the rank of series. Bailey (1895–97) interpreted *V. blancoi* as synonymous under *V. tiliifolia*, but he later (Bailey 1934) recognized it as distinct and related to series *Labruscoideae* Planchon, which included *V. labusca* L. and other large-fruited (15–25 mm dia.) species. Standley (1920–26) also considered *V. blancoi* as a synonym of *V. tiliifolia*, while Galet (1988) treated *V. blancoi* as distinct and placed it along with *V. tiliifolia* in series *Caribaea* Galet.

Bailey (1934) made a substantial contribution towards clarifying the correct status of *V. blancoi*. He pointed out that Planchon's (1887) description of *V. berlandieri*, was based on two forms. Plants with glabrous leaves as in *Berlandier 2412* (holotype PH!) from New Mexico or Texas were treated as the typical form, *V. berlandieri* var. *berlandieri*, and plants with tomentose leaves as in *Berlandier 3116* (WIS!) from the state of Nuevo León were referred to var. *tomentosa* Planchon. The latter trinomial has not been treated in any subsequent publications. Significantly, Bailey suggested that the tomentose form might be *V. blancoi*, and, also mentioned that in the Munson distribution of specimens in 1888 another name was used, but he did not provide to his readers the earlier name.

## MATERIALS AND METHODS

Field work by the senior author was carried out in 1986 and 1994 in Texas and in 1986, 1987 and 1990–92 in Mexico with collections made in the following states: Coahuila, Colima, Guerrero, Jalisco, México, Michoácan, Nuevo León, Oaxaca, Puebla, San Luis Potosi and Tamaulipas. Herbarium studies were conducted from 1980–92 during visits to the following: BRIT, JAL, JALU, MEXU, MO, TAMU, UF and UT.

## RESULTS AND DISCUSSION

Recent studies revealed that the northern and southern plants treated by Munson as *V. blancoi* are, in fact, two unrelated taxa with separate distributions. The southern plants are separated morphologically from the northern taxon (Table 1) by their relatively large stipules (2–5 mm long), which are often obscured by arachnoid trichomes. Also, individuals in the states of Colima (*Comeaux 4207, 5074, 5075* and *5076* BRIT), Jalisco (*Comeaux 5078* BRIT) and Puebla (*Bruff 1511* MEXU) have leaves with rufescent pubescence, while all collections observed of the northern taxon have only white pubescence. Large stipules indicate that this species is not related to *V. tiliifolia* and other members of series

TABLE 1. Comparison of certain characters between *V. blancoi* Munson and *V. cinerea* var. *tomentosa* (Planchon) Comeaux.

| Characters | *V. blancoi* | *V. cinerea* var. *tomentosa* |
|---|---|---|
| 1. *Leaves pubescent* | | |
| adaxial surface | pr[1], gt[2], gs[3] | gt, gs |
| abaxial surface | ft[4], ts[5], pb[6], pr | ts, pb |
| 2. *Pubescence color* | white to rusty | white |
| 3. *Stipule length* | 2–5 mm | 1–3 mm |
| 4. *Pistil length* | 1.5 mm | 1.0 mm |
| 5. *Fruit size (diameter in mm)* | *1-seeded*<br>average 7.4<br>range 6.0–10.0<br>sample size 42 | 1-seeded<br>average 6.7<br>range 5.5–8.0<br>sample size 37 |
| | 2-seeded<br>average 9.4<br>range 7.0–12.0<br>sample size 41 | 2-seeded<br>average 7.8<br>range 6.0–9.0<br>sample size 19 |
| | 3-seeded<br>average 10.1<br>range 9.0–12.0<br>sample size 23 | 3-seeded<br>average 9.1<br>range 8.5–10.0<br>sample size 4 |
| | 4-seeded<br>average 10.9<br>range 9.0–13.0<br>sample size 13 | |
| | 5-seeded<br>average 12.0<br>range —<br>sample size 1 | |

[1] pr = puberulent
[2] gt = glabrescent
[3] gs = glabrous
[4] ft = felted
[5] ts = tomentose
[6] pb = pubescent

*Cinerascentes*, which have short stipules (approximately 1–3 mm long). The fruit size (6–13 mm dia.) shows that it is not a relative of *V. labrusca* and other large-fruited (15–25 mm dia.) species of series *Labruscoideae*. Instead, the above characters and others, such as relatively early flowering time, stems round in cross section, and medium size fruit ripening in midseason, suggest that the southern taxon referred to as *V. blancoi* has closest affinities with the western series *Occidentales* Munson.

The northern Mexican vines considered by Munson as *V. blancoi* are, as suggested by Bailey (1934), the same as *Berlandier 3116*, which was designated by Planchon as *V. berlandieri* var. *tomentosa* Planchon. In Munson's (1909) description of *V. blancoi* most of

the attributed characters apply to both northern and southern plants, however, features such as small stipules and tiny flowers (see pistil length) are found only in the northern grapes (Table 1), and are characteristic of series *Cinerascentes*. The northern taxon differs from other members of series *Cinerascentes* by a syndrome of characters including: tomentose abaxial leaf surfaces, a general absence of short, straight trichomes on leaves and stems, entire leaf margins, U- or lyre-shaped basal sinuses, and relatively short fruit clusters (5.6–14.7 cm) It is the overall combination of characters that delimits this taxon, and the absence of one or two characters in an individual does not exclude it from the group.

## TAXONOMIC TREATMENT

*Vitis blancoi*, as first published by Munson (1890a; 1890b), included plants from southern Mexico having large stipules (2–5 mm long) and relatively large fruit (6–13 mm dia.). This taxon initially named *V. leucobrya* by Munson, as evidenced by a specimen (*Munson s.n.* UF!) distributed in 1888, was later renamed *V. blancoi* as seen on a specimen from 1889 (*Munson s.n.* MO!). The binomial *V. leucobrya*, is not valid since it was never published; therefore *V. blancoi* is the correct name.

Munson's (1909) description of *V. blancoi* also included plants from northern Mexico and southern Texas having small stipules (1–3 mm long) and relatively small fruit (5.5–10.0 mm dia.). Planchon (1887) named this taxon *V. berlandieri* var. *tomentosa*. In view of the recent treatment (Moore 1992) of *V. berlandieri* as *V. cinerea* var. *helleri* (Bailey)Moore, and its intergradation with the northern group of plants treated by Munson as *V. blancoi* in the Del Rio, TX, area, this taxon should be treated as *V. cinerea* (Engelm. in Gray) Engelm. *ex* Millardet var. *tomentosa* (Planchon) Comeaux.

## KEY TO SELECTED TAXA

1. Stipules 2–5 mm long; pistils 1.5 mm long; southern Mexico _____ **V. blancoi**
1. Stipules 1–3 mm long; pistils 1.0 mm long; northern Mexico and United States _____ **2**
   2. Leaves tomentose on abaxial surfaces, entire to minutely toothed, basal sinuses U- or lyre-shaped; leaves and stems without short (0.2 mm long), straight, pointed trichomes; inflorescences (including peduncles) 5.6–14.7 cm long; stems nearly terete in cross section _____ **V. cinerea** var. **tomentosa**
   2. Leaves pubescent to glabrous on abaxial surfaces, toothed, basal sinuses V-shaped; stems with or without short, straight, pointed trichomes; inflorescences (including peduncles) 5.5–20 cm long; stems angular in cross section _____ **3**
      3. Leaves glabrous to glabrate on abaxial surfaces; berries glaucous _____ **V. cinerea** var. **helleri**
      3. Leaves pubescent on abaxial surfaces; berries glaucescent _____ **V. cinerea** var. **cinerea**

**Vitis blancoi** Munson emend. Comeaux, Amer. Forests 3:374–375. 1890; USDA Pom. Bull. 3:13–14. 1890. TYPE: MEXICO. JALISCO: From the Sierra Madre Mountains 30 mi from Guadalajara, collected by Luciana Blanco, 1887, *Munson s.n.* (NEOTYPE, here designated: MO!).

Vines to 15 m, stems on current season growth typically tomentose (glabrous in certain individuals from high elevations) faintly striated; branchlets terete; internodes 2.3–10 cm

long; nodes not encircled with red pigmentation; pith interrupted at nodes by a diaphgram 2–3 mm thick; lenticels absent; growing tips normally tomentose varying to pubescent, with white, tan or rufescent arachnoid trichomes, not enveloped by young leaves. Leaves cordiform to long-cordiform or nearly deltoid, usually 3-lobed, with lateral lobes acute to acuminate, infrequently divergent, apex acute to long-acuminate, base cordate to nearly truncate with the basal sinus varying from U-shaped, to V-shaped and also lyre-shaped, lateral sinuses acute; margins serrate to nearly entire, with teeth to 3 mm long (typically 2 mm long), occasionally ciliate, with veins frequently extending beyond the teeth, midrib with 5–8, usually 6 pairs of prominent veins; lamina glabrous to puberulent on adaxial surfaces, felted, tomentose to pubescent (puberulent on high elevation specimens from Morelos) on abaxial surfaces, with the pubescence consisting of mostly arachnoid trichomes, sometimes including simple, straight, pointed trichomes that are ordinarily confined to primary veins, 4.2–16.5 cm wide, 7.4–20.5 cm long; petioles tomentose to puberulent, 2.6–10.5 cm long; stipules clear to brown, especially at the base, sometimes obscured by dense pubescence, 0.5–1 mm wide, 2–5 mm long, caducous. Tendrils and inflorescences absent every third node, tendrils bifurcate or trifurcate, to 18 cm long. Inflorescences 2.2–9.5 cm long, peduncles 1.9–4.8 cm long, shoulder 2.3–3.5 cm long, sometimes absent or replaced by a tendril. Flowers of the functionally pistillate plants with pistils 1.5 mm long. Fruit a berry, black, glaucous, 7–13 mm in diameter, with a pleasant flavor when fully ripe. Seeds brown, pyriform, 3.0–6.0 mm long.

*Distribution.*—Widely distributed in the southern deciduous forests and the pine/evergreen oak forests (De Miranda 1989) of southern Mexico south of the twenty-second parallel, in the states of Colima, Guerrero, Jalisco, México, Michoacán, Morelos, Oaxaca, Puebla and San Luis Potosi. Typically found along streams and similar sites at high elevations (1,050–2,450 m).

Above description based on the following specimens: **MEXICO. Colima:** 2.6 km S of Jalisco state line via Hwy 55, 1,300 m, 29 Jun 1986, *Comeaux 4207* (BRIT); 23.7 km N jct. Hwy 55 to Manzanillo via toll Hwy 55 to Guadalajara, 1,150 m, 27 Jul 1991, *Comeaux 5074, 5075, 5076* (BRIT). **Guerrero:** 17.1 km W jct. Hwy 95 at Chilpancingo, 1,550 m, 18 Jul 1992, *Comeaux 5189* (BRIT); 18.9 km W jct. Hwy 95 at Chilpancingo, 1,500 m, 18 Jul 1992, *Comeaux 5190, 5191* (BRIT); 16 km S of Taxco via Hwy 23, 1,200 m, 18 Jul 1992, *Comeaux 5193* (BRIT); Mpio. Chilpancingo de los Bravos, a 28 km al W de Chilpancingo, 27 Mar 1982, *Martinez 226* (MEXU); Mpio. Cutzamala de Pinzon, 1 km al E de Ventarron, 17 Mar 1973, 600 m, *Medrano 5593* (UT); W of Chilpancingo, 21 Oct 1944, *Sharp 441413* (MEXU). **Jalisco:** Nevado de Colima, below La Joya, 2287 m, 20 Nov 1968, *Boutin* and *Brandt 2378* (MEXU); Mpio. of Autlan de Navarro, 2,160 m, 17 Aug 1980, *Breedlove 45741* (MEXU); 1 km N of Colima state line via old Hwy 44, 1,200 m, 27 Jul 1991, *Comeaux 5078* (BRIT); Charandas, Mazamitla, 2,400 m, 14 May 1972, *Luna 3176* (MEXU); Cerro Viego, vereda al de la Bola del Viego, Mpio. Jocotepec, 2,450 m, 24 Apr 1986, *Machua 550* (JAL); Cerro Viejo, cauce enfrente de Huejotitan, Mpio. Jocotepec, 2,050 m, 2 May 1986, *Machua 1000* (JAL); 6 km N de Huapala, Mpio. de Jilotlan, 1,390 m, 5 Apr 1988, *Mendoza 3708* (MEXU); 3 km al so de las Coloradas, Mpio. de Jilotlan, 1,720 m, 5 Apr 1988, *Mendoza 3730* (MEXU); Near Tecalitlan, 2,100 m, 2 Aug 1985, *Rodriquez* and *Rosa 167* (MEXU). **México:** Valle de Bravo, 25 May 1971, *Boege 1806* (MEXU); 9.8 km N of Guerrero state line via Hwy 55, 1,550 m, 18 Jul 1992, *Comeaux 5194* (BRIT); 10.7 km N of Guerrero state line via Hwy 55, 18 Jul 1992, *Comeaux 5195* (BRIT); N of Ixtapan on toll rd. 4.2 km S of jct. rd. to Villa Guerra, 2,000 m, 18 Jul 1992, *Comeaux 5196* (BRIT); N of Ixtapan on toll rd.

3.8 km S of jct. rd. to Villa Guerra, 2,100 m, 18 Jul 1992, *Comeaux 5197* and *5198* (BRIT); N of Ixtapan on toll rd. 1.6 km S jct. rd. to Villa Guerra, 2,300 m, 18 Jul 1992, *Comeaux 5199* (BRIT); N of Ixtapan on toll rd. 0.8 km S jct. rd. to Villa Guerra, 2,300 m, 18 Jul 1992, *Comeaux 5200* (BRIT); N of Ixtapan on toll rd. 1.0 km N jct. rd. to Villa Guerra, 2,300 m, 18 Jul 1992, *Comeaux 5201* (BRIT); Nepantla, 2,000 m, 17 May 1953, *Matuda 28368* (MEXU); Amatepec y cercanias, 2,000 m, 11–12 Apr 1954, *Matuda 30668* (MEXU). **Michoacán:** Rincon, 4 Apr 1909, *Arsene 3009* (MEXU); La Cascada, Testarazo, cerca de Tacambaro, 2,100 m, 28 May 1981, *Arguelles 1595* (MEXU); Cucuchuchu, Mpio. de Tzintzuntzan, 2,200 m, 23 Apr 1979, *Caballero 966* (MEXU); Mpio. de Quiroga, 24 Mar 1986, *Campos 911* (MEXU); 5 km E of Zitácuaro via Hwy 15, 2,000 m, 24 Jul 1991, *Comeaux 5046* (BRIT); 4.2 km E of Zitácuaro via Hwy 15, 2,000 m, 24 Jul 1991, *Comeaux 5047* (BRIT); 3.8 km E of Zitácuaro via Hwy 15, 2,000 m, 24 Jul 1991, *Comeaux 5048* (BRIT); 3.5 km E of Zitácuaro via Hwy 15, 2,000 m, 24 Jul 1991, *Comeaux 5049, 5050* (BRIT); 5.3 km W of Zitácuaro via Hwy 15, 2,000 m, 24 Jul 1991, *Comeaux 5051* (BRIT); 5.6 km W of Zitácuaro via Hwy 15, 1,950 m, 24 Jul 1991, *Comeaux 5052, 5053, 5054* (BRIT); 7.7 km W of Zitácuaro via Hwy 15, 1950 m, 24 Jul 1991, *Comeaux 5055* (BRIT); 25.8 km W of Zitácuaro via Hwy 15, 1,850 m, 24 Jul 1991, *Comeaux 5056* and *5057* (BRIT); 42 km W of Zitácuaro via Hwy 15, 2,000 m, 24 Jul 1991, *Comeaux 5058* (BRIT); 10.7 km W of Hidalgo via Hwy 15, 2,150 m, 25 Jul 1991, *Comeaux 5059, 5060* (BRIT); 10.8 km W of Hidalgo via Hwy 15, 2,150 m, 25 Jul 1991, *Comeaux 5061* (BRIT); 11.0 km W of Hidalgo via Hwy 15, 2,150 m, 25 Jul 1991, *Comeaux 5062* (BRIT); 25.9 km W of Hidalgo via Hwy 15, 2,300 m, 25 Jul 1991, *Comeaux 5063* (BRIT); 60.2 km W of Hidalgo via Hwy 15, 2,450 m, 25 Jul 1991, *Comeaux 5064* and *5065* (BRIT); 61.1 km W of Hidalgo via Hwy 15, 2,450 m, 25 Jul 1992, *Comeaux 5066* and *5067* (BRIT); 20.6 km E jct. Hwy 15 and 126/43 near Morelia, 2,400 m, 25 Jul 1991, *Comeaux 5068* (BRIT); 31.7 km E jct. Hwy 15 and 126/43 near Morelia, 2,300 m, 25 Jul 1991, *Comeaux 5069* (BRIT); 31.0 km E jct. Hwy 15 and 126/43, 2,300 m, 25 Jul 1991, *Comeaux 5070* (BRIT); 13.1 km E jct. Hwy 15 and 126/43, 2,000 m, 25 Jul 1991, *Comeaux 5071* (BRIT); 7.2 km E jct. Hwy 15 and 120, W of Morelia, 2,200 m, 26 Jul 1991, *Comeaux 5072* (BRIT); 32.8 km E of Zamora via Hwy 15, 2,000 m, 26 Jul 1991, *Comeaux 5073* (BRIT); Ladera Norte del Cerro El Cacique, zona 9, Mpio. Zitácuaro, 2,410 m, 11 Oct 1980, *Contreras 1214* (MEXU); Rincon, 2 Apr 1932, *Hinton 482* (MEXU); 2 km S de Villa Escalante, 27 May 1979, *Soto Nunez 1428* (MEXU); 16 km al E de Uruapan, 29 May 1979, *Soto Nunez 1445* (MEXU); 12 km E de Coalcoman, 28 Mar 1980, 1,675 m, *Soto Nunez 2157* (MEXU); En Turundeo, 6 km al NW de Tuxpan, carr. México-Morelia, 1,845 m, 3 Apr 1981, *Soto Nunez 2930* (MEXU); San Jose Purua, Mpio. de Jungapeo, 10 Mar 1984, *Soto Nunez 6231* (MEXU); Mpio. de Villa Madera, 2,240 m, 29 Apr 1979, *Zavala 206* (MEXU). **Morelos:** 1.1 km N jct. Hwy 95 and 115 near Tepoztlán, 2,200 m, 22 Jul 1991, *Comeaux 5033* and *5034* (BRIT); Base of mountain with temple at Tepoztlán, 1,500 m, 23 Jul 1991, *Comeaux 5035, 5036, 5037, 5038, 5039, 5044*, and *5045* (BRIT); 12.8 km S of Tepoztlán via Hwy 115, 1,450 m, 23 Jul 1991, *Comeaux 5040* (BRIT); NE of Tepoztlán ca. 3 km on dirt road, 23 Jul 1991, *Comeaux 5041* (BRIT); 1.3 km E of square at Tepoztlán, 1,450 m, 23 Jul 1991, *Comeaux 5042* and *5043* (BRIT); Cuernavaca, Nov 1941, *Mirand 1906* (MEXU); Mountainside above Cuernavaca, 3 Feb 1899, *Pringle s.n.* (MEXU); Sierra de Tepoxtlan, 2,287 m, 15 Mar?, *Pringle s.n.* (MEXU); Tepetixtla km 71 carr. México-Cauutla, Mpio. de Cauutla, 19 Mar 1978, *Sanchez 2142* (MEXU); Pedregal de Santa Maria, 1 Apr 1970, *Vazquez 2415* (MEXU); Barranca Santa Clara, N.O. de Acatlipa, 2 Apr 1971, *Vazquez 3100* (MEXU). **Oaxaca:** 19.5 km N of jct. Hwy 190 and 175 at Oaxaca, 1,700 m, 16 Jul 1992, *Comeaux 5180* (BRIT); 10 km NE Oaxaca, camino a Yxtlan, 4 Feb 1966, *Delgadillo 213* (MEXU); Dto. de Ixtlan, Sierra de Juarez, Ruta 175 a 1 km al N de Ixtlan de Juarez, 1,800 m, 18 Apr 1962, *Lorence 4067* (MEXU); 10 km S de Cuquila, carr. Tlaxiaco-Putla, Dto. de Tlaxiaco, 1,800 m, 8 Jun 1985, *Mendoza 1479* (MEXU); 4 km al W del Vado, camino a San Sebastian de las Gratas, Dto. Sola de Vega, 6 Apr 1984, *Torres 4927* (MEXU). **Puebla:** Zacatlan, Feb 1943, *Bruff 1511* (MEXU); 1.4 km N of Puente Cantarranas II via Hwy 190 S of Atlixco, 1,850 m, 15 Jul 1992, *Comeaux 5171* (BRIT); At Puente Cantarranas II S of Atlixco, 1,850 m, 15 Jul 1992, *Comeaux 5172, 5173, 5174, 5175, 5176, 5177, 5178, 5179* (BRIT). **San Luis Potosi:** In Rio Verde, 50 m S of Hwy 70 along dirt rd. 0.2 km E of main blvd., 1,050 m, 28 Jun 1986, *Comeaux 4205* (BRIT); in Rio Verde, 2.9 km E jct. Hwy 69 and 70, 1,050 m, 19 Jul 1992, *Comeaux 5207* (BRIT).

**Vitis cinerea** (Engelm.in Gray)Engelm.ex Millardet var.**tomentosa** (Planchon) Comeaux, comb.nov. Basionym: *V. berlandieri* var.*tomentosa* Planchon, Compt.Rend.Hebd.Séances Acad. Sci.91:425.1880. Type: MEXICO. Nuevo León: Cerro de la Silla, Jun, 1834, *Berlandier 3116* (lectotype: WIS!; isolectotype: MO!).

Vines to 15 m, stems on current season growth tomentose to pubescent,rarely with bristle-like trichomes, branchlets nearly terete to faintly angular; internodes 3–10 cm long; nodes faintly banded to without red pigmentation; pith interrupted at the nodes by a diaphragm 2–3 mm thick; lenticels absent; growing tips tomentose, with white, arachnoid trichomes, not enveloped by young leaves. Leaves cordiform to long-cordiform, generally without lobes or less frequently 3-lobed, with lateral lobes acute, apex acute to acuminate, base cordate to nearly truncate with the basal sinus varying from mostly U-shaped, to lyre-shaped and also V-shaped, lateral sinues acute; margins mostly entire, occasionally with teeth to 3 mm long, with or without cilia; midrib with 4–7, usually 5 pairs of prominent veins; lamina glabrous to puberulant on adaxial surfaces, tomentose to pubescent on abaxial surfaces, with the pubescence consisting of mostly arachnoid trichomes, sometimes including simple, straight, pointed trichomes, 5.5–11.2 cm wide, 6.2–12.8 cm long; petioles tomentose to puberulent, 1.4–4.1 cm long; stipules brown, 0.5–1 mm wide, 1–3 mm long, caducous. Tendrils and inflorescences absent every third node, tendrils bifurcate or trifurcate, to 10 cm long. Inflorescences 4.0–11.0 cm long, peduncles 1.0–4.2 cm long, shoulder 1.0–5.0 cm long, sometimes absent or replaced by a tendril. Flowers of the functionally pistillate plants with pistils 1 mm long. Fruit a berry, black, glaucous, 5.5–10 mm in diameter, with a pleasant flavor when fully ripe. Seeds brown, pyriform, 3.5–5.5 mm long.

Commonly found along streams and other moist sites in the semiarid scrub and grasslands (De Miranda 1989) east of the Sierra Madre Oriental along the Rio Grande from the Del Rio, TX, area south to the Tropic of Cancer (120–1050 m. elev.) Individuals from the Del Rio area have characters intermediate between *V. cinerea* var.*helleri*, primarily from the Edwards Plateau region of Texas, and the more southerly distributed var. *tomentosa*. These intermediates establish the existence of clinal variation between the above varieties of *V. cinerea*.

Above description based on the following specimens: **MEXICO. Coahuila:** S edge of Morelos via Hwy 57, 16 Jun 1986, *Comeaux 4032* and *4033* (BRIT); 10.1 km N of Morelos via Hwy 57, 16 Jun 1986, *Comeaux 4034* (BRIT); 36.8 km N of Morelos via Hwy 57, 16 Jun 1986, *Comeaux 4035*, *4036*, *4037* and *4038* (BRIT); S of Acuna at 3.0 km S jct. Hwy 2 and 29, 17 Jun 1986, *Comeaux 4039* (BRIT); S of Acuna at 3.5 km S jct. Hwy 2 and 29, 17 Jun 1986, *Comeaux 4040* and *4041* (BRIT); S of Acuna at 23.0 km S jct. Hwy 2 and 29, 17 Jun 1986, *Comeaux 4042*, *4043* and *4044* (BRIT); 27.2 km S jct. Hwy 2 and 29 in S. Juan de Sabina, 17 Jun 1986, *Comeaux 4045* (BRIT); 2.7 km N of Muzquiz via Hwy 53, 17 Jun 1986, *Comeaux 4046*, *4047* and *4051* (BRIT); 10.7 km N of Muzquiz via Hwy 53 at river, 17 Jun 1986, *Comeaux 4048*, *4049* and *4050* (BRIT). **Nuevo León:** 6.6 km E of Sabinas Hildago via Hwy 34, 16 Jun 1986, *Comeaux 4026*, *4027* and *4028* (BRIT); 1.8 km W of Sabinas Hidalgo via Hwy 34, 16 Jun 1986, *Comeaux 4029* (BRIT); 21.1 km W of Sabinas Hidalgo via Hwy 29, 16 Jun 1986, *Comeaux 4030* (BRIT); 22.1 km W of Sabinas Hidalgo via Hwy 29, 16 Jun 1986, *Comeaux 4031* (BRIT); Monterey, 25.0 km N jct. Hwy 85 and rd. to Santiago, 18 Jun 1986, *Comeaux 4052* and *4053* (BRIT); S of Monterey at 2.2 km N jct. Hwy 85 and rd. to Santiago, 18 Jun 1986, *Comeaux 4054* and *4055* (BRIT); at river 19.2 km N of Montemorelos

via Hwy 85, 18 Jun 1986, *Comeaux 4056* (BRIT); 1.1 km N of Montemorelos via Hwy 85, 18 Jun 1986, *Comeaux 4057*, *4058* and *4059* (BRIT); 3.2 km S of Montemorelos via Hwy 85, 18 Jun 1986, *Comeaux 4060* (BRIT); 37.3 km S of Montemorelos via Hwy 85, 18 Jun 1986, *Comeaux 4061* (BRIT); 3.5 km N of Linares via Hwy 85, 18 Jun 1986, *Comeaux 4062* (BRIT); 27.5 km N of Montemorelos via Hwy 35, 29 Sep 1987, *Comeaux 4946* (BRIT); 20.5 km N of Montemorelos via Hwy 35, 29 Sep 1987, *Comeaux 4947* (BRIT); 19.4 km N of Montemorelos via Hwy 35, 29 Sep 1987, *Comeaux 4948* (BRIT); 24.2 km N of Linares via Hwy 85, 29 Sep 1987, *Comeaux 4949* (BRIT); 5.0 km W of Iturbide via Hwy 58, 5 Oct 1990, *Comeaux 4975* (BRIT); 2.4 km E of Iturbide via Hwy 58, 5 Oct 1990, *Comeaux 4976* (BRIT); 5.4 km E of Iturbide via Hwy 58, 5 Oct 1990, *Comeaux 4977* (BRIT); 9.4 km E of Iturbide via Hwy 58, 5 Oct 1990, *Comeaux 4978* (BRIT); 12.6 km E of Iturbide via Hwy 58, 5 Oct. 1990, *Comeaux 4979* (BRIT); 7.8 km W of jct. rd. to Horsetail Falls and Hwy 85, 950 m, 22 May 1991, *Comeaux 5001* (BRIT); 8.8 km W of jct. rd. to Horsetail Falls and Hwy 85, 1050 m, 22 May 1991, *Comeaux 5002* and *5003* (BRIT); 5.6 km E of jct. of rd. to Casacade de Chipitin and rd. to Horsetail Falls from Hwy 85, 850 m, 22 May 1991, *Comeaux 5004* (BRIT); 9.4 km N of bridge at General Teran via Hwy 35, 275 m, 11 Jul 1992, *Comeaux 5154* (BRIT); 1.0 km S of bridge at General Teran via Hwy 85, 275 m, 11 Jul 1992, *Comeaux 5155* (BRIT); 13.0 km N of bridge at Linnares via Hwy 85, 275 m, 11 Jul 1992, *Comeaux 5156* (BRIT); 4.8 km NW of General Teran, Hacienda San Pedro, 21 Apr. 1962, *Ruiz 63* (TAMU). **Tamaulipas:** 31.4 km N of Rio Corona near Hwy 85, 19 Jun 1986, *Comeaux 4063* and *4064* (BRIT); 18.1 km N of Rio Corona via Hwy 85, 19 Jun 1986, *Comeaux 4065* (BRIT); At Rio Corona jct. Hwy 85, 19 Jun 1986, *Comeaux 4066* (BRIT); 21.9 km N of Tropic of Cancer via Hwy 85, 19 Jun 1986, *Comeaux 4067* (BRIT); 5.6 km N of Rio Purificacion via Hwy 85, 29 Sep 1986, *Comeaux 4950* (BRIT); 0.3 km S of Rio Purificacion via Hwy 85, 29 Jun 1990, *Comeaux 4951* (BRIT); 10.9 km N of Tropic of Cancer via Hwy 180, 120 m, 5 May 1991, *Comeaux 4980* and *4981* (BRIT).

**U.S.A. TEXAS. Maverick Co.:** 1.6 km S of Quemado via Hwy 277, 275 m, 21 May 1986, *Comeaux 3861* and *3863* (BRIT). **Val Verde Co.:** Del Rio, near Val Verde Winery, 300 m, 21 May 1986, *Comeaux 3864*, *3865*, *3866*, *3867*, *3868*, *3869* and *3870* (BRIT); San Felipe Country Club, Del Rio, 8 May 1943, *Cory 41717* (UT).

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